Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.   (Cancelled)

2.   (Cancelled)

3.   (Cancelled)

4.   (Cancelled)

5.   (Cancelled)

6.   (Cancelled)

7.   (Cancelled)

8.   (Cancelled)

9.   (Currently Amended) A monitoring device for energy storage batteries comprising:

a device for measuring battery temperature; and

a computation device for determining the charge drawn by an energy storage battery starting from an initial state of charge at the start of the drawing of the charge;

wherein the computation device is designed to carry out a method comprising:

determining the charge drawn as a function of an exponential function with a time constant, wherein the time constant is defined at least as a function of the energy storage battery type and of the temperature of at least one of the battery temperature and the electrolyte temperature.

10.   (Cancelled)

11.   (Currently Amended) A computer program comprising:

computer program code designed to carry out a method when the computer program is run using a processor device, the method comprising:

determining the charge drawn as a function of an exponential function with a time constant, wherein the time constant is defined at least as a function of the energy storage battery type and of the temperature of the electrolyte;

wherein the computer program is a program file stored on a data storage medium.

12. (New) The monitoring device of Claim 9 wherein the time constant is also defined as a function of the state of charge at the start of the drawing of the charge.

13. (New) The monitoring device of Claim 11 wherein the time constant is also defined as a function of at least one of a charging voltage, a mean charging voltage and a rated charging voltage.

14. (New) The monitoring device of Claim 9 wherein the method further comprises determining the absolute amount of charge drawn according to the function

$$\Delta Q \approx (1 - e^{-t/\tau}) (Q_0 - Q_s),$$

where ΔQ is the absolute amount of charge drawn, Q_0 is the defined rated capacity of the energy storage battery, and Q_s is the initial charge of the energy storage battery at the start of the drawing of the charge.

15. (New) The monitoring device of Claim 9 wherein the method further comprises determining the relative state of charge of the energy storage battery with respect to the rated capacity of the energy storage battery according to the function:

$$Q(t)/Q_0 \approx 1 - (1 - Q_s/Q_0)^{-t/\tau}$$

where $Q(t)/Q_0$ is the relative state of charge of the energy storage battery, Q_0 is the rated capacity of the energy storage battery, and Q_s is the initial charge of the energy storage battery at the start of the drawing of the charge.

16. (New) The monitoring device of Claim 9 wherein the method further comprises determining a first correction factor for the time constant, the first correction factor being determined using the formula:

$$\tau_T = a^{-(T_e - Te,0)/b}$$

where τ_T is the first correction factor, T_e is the electrolyte temperature of the energy storage battery, $T_{e,0}$ is a defined electrolyte nominal temperature, and a and b are constants.

17. (New) The monitoring device of Claim 15 wherein the constant a has a value between 1.5 and 2.5 and the constant b has a value between 9 and 11.

18. (New) The monitoring device of Claim 15 wherein the method further comprises determining a second correction factor for the time constant, the second correction factor having a value between 1 and 1 - Q_s/Q_0.

19. (New) The monitoring device of Claim 9 further comprising a computer program comprising computer program code designed to carry out the method when the computer program is run using a processor device.

20. (New) The monitoring device of Claim 18 wherein the computer program is a program file stored on a data storage medium.